

## CLAIMS

1. A method of generating energy profiles for a specific task in a  
2 processing device executing multiple tasks, comprising the steps of:  
receiving a first task identifier indicative of an active task in a processing  
4 component;  
storing a second task identifier indicating a task to be monitored;  
6 comparing the first and second task identifiers and generating a  
predetermined signal if the first and second task identifiers match;  
8 measuring activity of certain devices responsive to said predetermined  
signal.
2. The method of claim 1 wherein said measuring step comprises the  
2 step of enabling one or more counters responsive to said predetermined signal.
3. The method of claim 1 and further comprising the step of updating  
2 an energy profile associated with the task to be monitored.
4. The method of claim 3 wherein said updating step comprises the  
2 step of updating an energy profile responsive to said measuring step during  
operation of said processing device.
5. The method of claim 4 and further comprising the step of executing  
2 a plurality of tasks in accordance with a scenario defining scheduling of said  
plurality of tasks and modifying said scenario responsive to said step of  
4 updating an energy profile.
6. The method of claim 1 and further comprising the step of  
2 performing a debugging operation responsive to said measuring step.
7. A processing device for multitasking multiple tasks comprising:  
2 circuitry for receiving a first task identifier indicative of an active task in a

processing component;

4 a memory for storing a second task identifier indicating a task to be monitored;

6 a comparator for comparing the first and second task identifiers and generating a predetermined signal if the first and second task identifiers match;

8 circuitry for measuring activity of certain devices responsive to said predetermined signal.

8. The processing device of claim 7 wherein said measuring circuitry  
2 comprises the one or more counters that are enabled or disabled by to said predetermined signal.

9. The processing device of claim 7 wherein data from said circuitry  
2 for measuring activity updates an energy profile associated with the task to be monitored.

10. The processing device of claim 9 wherein said energy profile is  
2 updated during operation of said processing device.

11. The processing device of claim 10 wherein said plurality of tasks  
2 are executed in accordance with a scenario defining scheduling of said plurality of tasks and said scenario is updated responsive to said step of updating an  
4 energy profile.

12. The processing device of claim 7 and further comprising circuitry  
2 for implementing a debugging operation responsive to a value in said measuring circuitry.

13. A mobile communications device comprising:  
2 an antenna for receiving and transmitting signals; and  
receiver/transmitter circuitry coupled to said antenna for sending and  
4 receiving audio and data signals, said receiver/transmitter circuitry including a

processing circuit comprising:

- 6                   circuitry for receiving a first task identifier indicative of an active task in a processing component;
- 8                   a memory for storing a second task identifier indicating a task to be monitored;
- 10                  a comparator for comparing the first and second task identifiers and generating a predetermined signal if the first and second task identifiers
- 12   match;
- circuitry for measuring activity of certain devices responsive to said
- 14   predetermined signal.

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